

State of Missouri

Unofficial Text Changes for 10 CSR 20-7.015 Effluent Regulations



Missouri Department of Natural Resources
Water Protection and Soil Conservation Division
Water Protection Program

**Title 10--DEPARTMENT OF
NATURAL RESOURCES
Division 20--Clean Water Commission
Chapter 7--Water Quality**

10 CSR 20-7.010 Prevention of Pollution from Wells to Subsurface Waters of the State

(Rescinded July 10, 1980)

AUTHORITY: section 204.026, RSMo 1978. Original rule filed June 19, 1974, effective June 29, 1974. Amended: Filed April 1, 1975, effective April 11, 1975. Rescinded: Filed Oct. 12, 1979, effective July 10, 1980.

10 CSR 20-7.015 Effluent Regulations

PURPOSE: This rule sets forth the limits for various pollutants which are discharged to the various waters of the state. The two previous rules 10 CSR 20-6.050 and 10 CSR 20-7.010 have been rescinded and this rule combines certain aspects of both rules and modifies the format of the effluent regulations. This rule also complies with the latest changes to the Federal Clean Water Act, P.L. 97-117 (1981).

(1) Designations of Waters of the State.

(A) For the purpose of this rule, the waters of the state are divided into the following categories:

1. The Missouri and Mississippi Rivers;
2. Lakes and reservoirs, including natural lakes and any impoundments created by the construction of a dam across any waterway or watershed. An impoundment designed for or used as a disposal site for tailings or sediment from a mine or mill shall be considered a wastewater treatment device and not a lake or reservoir. Releases to lakes and reservoirs include discharges into streams one-half (1/2) stream mile (.80 km) before the stream enters the lake as measured to its normal full pool;
3. A losing stream is a stream which distributes thirty percent (30%) or more of its flow through natural processes such as through permeable geologic materials into a bedrock aquifer within two (2) miles' flow distance downstream of an existing or proposed discharge. Flow measurements to determine percentage of water loss must be corrected to approximate the seven (7)-day Q10 stream flow. If a stream bed or drainage way has an intermittent flow or a flow insufficient to measure in accordance with this rule, it may be determined to be a losing stream on the basis of channel development, valley configuration, vegetation development, dye tracing studies, bedrock characteristics, geographical data and other geological factors. Only discharges which in the opinion of the department reach the losing section and which occur within two (2) miles upstream of the losing section of the stream shall be considered releases to a losing stream. A list of known losing streams is available in the Water Quality Standards, 10 CSR 20-7.031 Table J—Losing Streams from the Water Pollution Control Program. Other streams may be determined to be losing by the Geological Survey and Resource Assessment Division~~Division of Geology and Land Survey~~;
4. Metropolitan no-discharge streams. These streams and the limitations on discharging to them are listed in the commission's Water Quality Standards 10 CSR 20-7.031. This rule shall in no way change, amend or be construed to allow a violation of the existing or future water quality standards;
5. Special streams--wild and scenic rivers, Ozark National Scenic Riverways and Outstanding State Resource Waters;
6. Subsurface waters in aquifers; and
7. All other waters except as noted in paragraphs (1)(A)1.-6. of this rule.

(B) The effluent limitation for each category is listed separately in sections (2)-(8). In addition to the limitations identified under each specific designation, the general conditions contained in section (9) apply to all discharges.

(2) Effluent Limitations for the Missouri and Mississippi Rivers.

(A) The following limitations represent the maximum amount of pollutants which may be discharged from any point source, water contaminant source or wastewater treatment facility.

(B) Discharges from wastewater treatment facilities which receive primarily domestic waste or from publicly-owned treatment works (POTWs) shall undergo treatment sufficient to conform to the following limitations:

1. Biochemical Oxygen Demand⁵ (BOD₅) and nonfilterable residues (NFRs) equal to or less than a monthly average of thirty milligrams per liter (30 mg/l) and a weekly average of forty-five milligrams per liter (45 mg/l);
2. pH shall be maintained in the range from six to nine (6-9) standard units;
3. Exceptions to paragraphs (2)(B)1. and 2. are as follows:

A. If the facility is a wastewater lagoon, the NFRs shall be equal to or less than a monthly average of eighty (80) mg/l and a weekly average of one hundred twenty (120) mg/l and the pH shall be maintained above 6.0, and the BOD5 shall be equal to or less than a monthly average of forty-five (45) mg/l and a weekly average of sixty-five (65) mg/l;

B. If the facility is a trickling filter plant the BOD5 and NFRs shall be equal to or less than a monthly average of forty-five (45) mg/l and a weekly average of sixty-five (65) mg/l;

C. Where the use of effluent limitations set forward in this section is known or expected to produce an effluent that will endanger or violate water quality, the department will set specific effluent limitations for individual dischargers to protect the water quality of the receiving streams. When a waste load allocation or a total maximum daily load study is conducted for a stream or stream segment, all permits for discharges in the study area shall be modified to reflect the limits established in the study;

D. The department may require more stringent limitations than authorized in subsections (3)(A) and (B) under the following conditions:

(I) If the facility is an existing facility, the department may set the BOD5 and NFR limits based upon an analysis of the past performance, rounded up to the next five (5) mg/l range; and

(II) If the facility is a new facility, the department may set the BOD5 and NFR limits based upon the design capabilities of the plant considering geographical and climatic conditions;

(a) A design capability study has been conducted for new lagoon systems. The study reflects that the effluent limitations should be BOD5 equal to or less than a monthly average of forty-five (45) mg/l, a weekly average of sixty-five (65) mg/l, NFRs equal to or less than a monthly average of seventy (70) mg/l and a weekly average of one hundred ten (110) mg/l.

(b) A design capability study has been conducted for new trickling filter systems and the study reflects that the effluent limitations should be BOD5 and NFRs equal to or less than a monthly average of forty (40) mg/l and a weekly average of sixty (60) mg/l; and

E. If the facility is a POTW wastewater treatment facility providing at least primary treatment during a precipitation event and discharges on a noncontinuous basis, the discharge may be allowed provided that:

(I) BOD5 and NFRs equal to or less than a weekly average of forty-five (45) mg/l. The NFR (total suspended solids) limit may be higher than forty-five (45) mg/l for combined sewer overflow treatment devices when organic solids are demonstrated to be an insignificant fraction of total inorganic storm water generated solids, and the permittee can demonstrate that achieving a limit of forty-five (45) mg/l is not cost effective relative to water quality benefits. In these cases, an alternative total suspended solids limit would be developed.

(II) pH shall be maintained in the range from six to nine (6-9) standard units; and

(III) Only the wastewater in excess of the capacity of the noncontinuous waste-water treatment plant hydraulic capacity may be discharged;

4. Fecal coliform. Discharges ~~to the Mississippi from the Missouri-Iowa line down to Lock and Dam 26 into segments identified as whole body contact areas~~ shall not contain more than a monthly average of four hundred (400) fecal coliform colonies per one hundred milliliters (100 ml) and a daily maximum of one thousand (1000) fecal coliform colonies per one hundred milliliters (100 ml) from April 1 to October 31. The department may waive or relax this limitation if the owner or operator of the wastewater treatment facility can demonstrate that neither health nor water quality will be endangered by failure to disinfect. Facilities without disinfected effluent shall comply with the implementation schedule found in subsection (9)(H) of this rule. During periods of wet weather, a temporary suspension of accountability for bacteria standards may be established through the process described in subsection (9)(I) of this rule.

5. Sludges removed in the treatment process shall not be discharged. Sludges shall be routinely removed from the wastewater treatment facility and disposed or used in accordance with a sludge management practice approved by the department; and

6. When the wastewater treatment process causes nitrification which affects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five (5) mg/l less than the regular BOD5 in the operating permit.

(C) The suspended solids which are present in stream water and which are removed during treatment may be returned to the same body of water from which they were taken, along with any additional suspended solids resulting from the treatment of water to be used as public potable water or industrial purposes using essentially the same process as a public water treatment process. This includes the solids that are removed from potable waters that are withdrawn from wells located in the alluvial valley of the Missouri and Mississippi Rivers.

(D) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that shall require, at a minimum, one (1) wastewater sample per year for each fifty thousand (50,000) gallons per day (gpd) of effluent, or fraction thereof, except that--

A. Point sources that discharge less than twenty-five thousand (25,000) gpd may only be required to submit an annual report;

B. Point sources that discharge more than one (1) million gallons per day (mgd) will be required at a minimum to collect twenty (20) wastewater samples per year unless the applicant can show that the wastewater has a consistent quality, such as once through cooling water or mine dewatering, then the department may set less frequent sampling requirements; and

C. Sludge sampling will be established in the permit.

2. Sampling frequency shall be spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall collect samples on a regular evenly spaced schedule, while point sources with seasonal discharges shall collect samples evenly spaced during the season of discharge.

3. Sample types shall be as follows:

A. Samples collected from lagoons may be grab samples;

B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and

C. Sludge samples will be grab samples unless otherwise specified in the operating permit.

4. The monitoring frequency and sample types stated in paragraph (2)(D)3. are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site specific informational needs of the department.

(3) Effluent Limitations for the Lakes and Reservoirs.

(A) The following limitations represent the maximum amount of pollutants which may be discharged from any point source, water contaminant source or wastewater treatment facility to a lake or reservoir designated in 10 CSR 20-7.031 as L2 and L3 which is publicly owned.

(B) Discharges from wastewater treatment facilities which receive primarily domestic waste or from POTWs shall undergo treatment sufficient to conform to the following limitations:

1. BOD5 and NFRs equal to or less than a monthly average of twenty (20) mg/l and a weekly average of thirty (30) mg/l;

2. pH shall be maintained in the range from six to nine (6-9) standard units;

3. Discharge to lakes and reservoirs identified as whole body contact areas shall not contain more than a monthly average of four hundred (400) fecal coliform colonies per one hundred milliliters (100 ml) and a daily maximum of one thousand (1,000) fecal coliform colonies per one hundred milliliters (100 ml) from April 1 to October 31. The department may waive or relax this limitation if the permittee can demonstrate that neither health nor water quality will be endangered by failure to disinfect. Facilities without disinfected effluent shall comply with the implementation schedule found in subsection (9)(H) of this rule. During periods of wet weather, a temporary suspension of accountability for bacteria standards may be established through the process described in subsection (9)(I) of this rule;

4. Where the use of effluent limitations set forth in section (3) is known or expected to produce an effluent that will endanger or violate water quality, the department may either--conduct waste load allocation studies in order to arrive at a limitation which protects the water quality of the state or set specific effluent limitations for individual dischargers to protect the water quality of the receiving streams. When a waste load allocation study is conducted for a stream or stream segment, all permits for discharges in the study area shall be modified to reflect the limits established in the waste load allocation study;

5. If the facility is a POTW wastewater treatment facility providing at least primary treatment during a precipitation event and discharges on a noncontinuous basis, the discharge may be allowed subject to the following:

A. BOD5 and NFRs equal to or less than a weekly average of forty-five (45) mg/l;

B. pH shall be maintained in the range from six to nine (6-9) standard units; and

C. Only the wastewater in excess of the capacity of the noncontinuous wastewater treatment plant hydraulic capacity may be discharged;

6. Sludges removed in the treatment process shall not be discharged. Sludges shall be routinely removed from the wastewater treatment facility and disposed of or used in accordance with a sludge management practice approved by the department; and

7. When the wastewater treatment process causes nitrification which effects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five (5) mg/l less than the regular BOD5 in the operating permit.

(C) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that will require, at a minimum, one (1) wastewater sample per year for each twenty-five thousand (25,000) gpd of effluent, or fraction thereof, except that--

A. Point sources that discharge less than five thousand (5,000) gpd may only be required to submit an annual report;

B. Point sources that discharge more than one point three (1.3) mgd will be required, at a minimum, to collect fifty-two (52) wastewater samples per year unless the applicant can show that the wastewater has a consistent quality, such as once through cooling water or mine dewatering, then the department may set less frequent sampling requirements; and

C. Sludge sampling will be established in the permit.

2. Sampling frequency shall be spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall take samples on a regular evenly spaced schedule, while point sources with seasonal discharges shall collect samples evenly spaced during the season of discharge.

3. Sample types shall be as follows:

A. Samples collected from lagoons may be grab samples;

B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and

C. Sludge samples shall be grab samples unless otherwise specified in the operating permit.

4. The monitoring frequency and sample types stated in paragraph (3)(C)3. are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site specific informational needs of the department.

(D) For lakes designated in 10 CSR 20-7.031 as L1, which are primarily used for public drinking water supplies, there will be no discharge into the watersheds above these lakes from domestic or industrial wastewater sources regulated by these rules. Discharges from potable water treatment plants, such as filter wash, may be permitted. Separate storm sewers will be permitted, but only for the transmission of storm water. Discharges permitted prior to the effective date of this requirement may continue to discharge so long as the discharge remains in compliance with its operating permit.

(E) For lakes designated in 10 CSR 20-7.031 as L3 which are not publicly owned, the discharge limitations shall be those contained in section (8).

(F) In addition to other requirements in this section, discharges to Lake Taneycomo and its tributaries between Table Rock Dam and Power Site Dam (and excluding the discharges from the dams) shall not exceed five-tenths (0.5) mg/l of phosphorus as a monthly average. Discharges meeting both the following conditions shall be exempt from this requirement:

1. Those permitted prior to ~~May 9, 1994~~adoption of this rule; and

2. Those with design flows of less than twenty-two thousand five hundred gallons per day (22,500 gpd). All existing facilities whose capacity is increased would be subject to phosphorus limitations. The department may allow the construction and operation of interim facilities without phosphorus control provided their discharges are connected to regional treatment facilities with phosphorus control not later than three (3) years after authorization. Discharges in the White River basin and outside of the area designated above for phosphorus limitations shall be monitored for phosphorus discharges, and the frequency of monitoring shall be the same as that for BOD5 and NFR, but not less than annually. The department may reduce the frequency of monitoring if the monitoring data is sufficient for water quality planning purposes.

(G) In addition to other requirements in this section, discharges to Table Rock Lake watershed, defined as hydrologic units numbered 11010001 and 11010002, shall not exceed five-tenths milligrams per liter (0.5 mg/l) of phosphorus as a monthly average according to the following schedules except as noted in paragraph (3)(G)5.:

1. Any new discharge shall comply with this new requirement upon the start of operations;

2. Any existing discharge, or any sum of discharges operated by a single continuing authority, with a design flow of 1.0 mgd or greater shall comply no later than November 30, 2003~~four (4) years after the effective date of this rule~~;

3. Any existing discharge, or any sum of discharges operated by a single continuing authority, with a design flow of 0.1 mgd or greater, but less than 1.0 mgd, shall comply no later than November 30, 2007~~eight (8) years~~

~~after the effective date of this rule~~, and shall not exceed one milligram per liter (1.0 mg/l) as a monthly average as soon as possible and no later than November 30, 2003~~four (4) years after the effective date of this rule~~;

4. Any existing discharge with a design flow of twenty-two thousand five hundred gallons per day (22,500 gpd) or greater but less than 0.1 mgd shall comply no later than November 30, 2007~~eight (8) years after the effective date of this rule~~;

5. Any existing discharge with a design flow of less than twenty-two thousand five hundred gallons per day (22,500 gpd) permitted prior to November 30, 1999~~the effective date of this rule~~ shall be exempt from this requirement unless the design flow is increased; and

6. Any existing discharge in which the design flow is increased shall comply according to the schedule applicable to the final design flow.

(4) Effluent Limitations for Losing Streams.

(A) Discharges to losing streams shall be permitted only after other alternatives including land application, discharge to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

(B) If the department agrees to allow a release to a losing stream, the permit will be written using the limitations contained in subsections (4)(B) and (C). Discharges from wastewater treatment facilities which receive primarily domestic waste or from POTWs permitted under this section shall undergo treatment sufficient to conform to the following limitations:

1. BOD5 equal to or less than a monthly average of ten (10) mg/l and a weekly average of fifteen (15) mg/l;
2. NFRs equal to or less than a monthly average of fifteen (15) mg/l and a weekly average of twenty (20) mg/l;

3. pH shall be maintained in the range from six to nine (6-9) standard units;

4. Discharges to losing streams shall not contain more than a monthly average of four hundred (400) fecal coliform colonies per one hundred milliliters (100 ml) and a daily maximum of one thousand (1,000) fecal coliform colonies per one hundred milliliters (100 ml);

5. ~~Where chlorine is used as a disinfectant, the effluent shall be dechlorinated except when the discharge is—
A. Into an unclassified stream at least one (1) mile from a water quality standard classified stream; and
B. Into a flowing stream where the seven (7) day Q10 flow is equal to or greater than fifty (50) times the effluent flow; All chlorinated effluent discharges to losing streams or within two (2) stream miles flow distance upstream of a losing stream shall also be dechlorinated prior to discharge;~~

6. If the facility is a POTW wastewater treatment facility providing at least primary treatment during a precipitation event and discharges on a noncontinuous basis, the discharge may be allowed subject to the following:

A. BOD5 and NFRs equal to or less than a weekly average of forty-five (45) mg/l;

B. pH shall be maintained in the range from six to nine (6-9) standard units; and

C. Only the wastewater in excess of the capacity of the noncontinuous wastewater treatment plant hydraulic capacity may be discharged;

7. Sludges removed in the treatment process shall not be discharged. Sludges shall be routinely removed from the wastewater treatment facility and disposed of or used in accordance with a sludge management practice approved by the department; and

8. When the wastewater treatment process causes nitrification which effects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five (5) mg/l less than the regular BOD5 in the operating permit.

(C) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that shall require at a minimum one (1) wastewater sample per year for each twenty-five thousand (25,000) gpd of effluent, or fraction thereof, except that--

A. Point sources that discharge less than five thousand (5,000) gpd may only be required to submit an annual report;

B. Point sources that discharge more than one point three (1.3) mgd will be required at a minimum to collect fifty-two (52) wastewater samples per year unless the applicant can show that the wastewater has a consistent quality, such as once through cooling water or mine dewatering, then the department may set less frequent sampling requirements; and

C. Sludge samples will be established in the permit.

2. Sampling frequency shall be spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall take samples on a regular schedule, while point sources with seasonal discharges shall collect samples during the season of discharge.

3. Sample types shall be as follows:

A. Samples collected from lagoons may be grab samples;

B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and

C. Sludge samples shall be a grab sample unless otherwise specified in the operating permit.

4. The monitoring frequency and sample types stated in paragraph (4)(C)3. are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site specific informational needs of the department.

(5) Effluent Limitations for Metropolitan No-Discharge Streams.

(A) Discharge to metropolitan no-discharge streams is prohibited, except as specifically permitted under the Water Quality Standards, 10 CSR 20-7.031 and noncontaminated storm water flows.

(B) All permits for discharges to these streams shall be written to ensure compliance with the water quality standards.

(C) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that shall require, at a minimum, one (1) wastewater sample per year for each twenty-five thousand (25,000) gpd of effluent, or fraction thereof, except that--

A. Point sources that discharge less than five thousand (5,000) gpd may only be required to submit an annual report;

B. Point sources that discharge more than one point three (1.3) mgd will be required at a minimum to collect fifty-two (52) wastewater samples per year; and

C. Sludge sampling will be established in the permit.

2. Sampling frequency shall be spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall take samples on a regular schedule, while point sources with seasonal discharges shall collect samples during the season of discharge.

3. Sample types shall be as follows:

A. Samples collected from lagoons may be grab samples;

B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and

C. Sludge samples shall be a grab sample unless otherwise specified in the operating permit.

4. The monitoring frequency and sample types stated in paragraph (5)(C)3. are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site specific informational needs of the department.

(6) ~~Effluent Limitations for Special Streams~~ Discharge Restrictions for Outstanding National or State Resource Waters and Drainages Thereto.

~~(A) Limits for Wild and Scenic Rivers and Ozark National Scenic Riverways and Drainages Thereto.~~

~~1. The following limitations represent the maximum amount of pollutants which may be discharged from any point source, water contaminant source or wastewater treatment facility to waters included in this section.~~

~~2. Discharges from wastewater treatment facilities which receive primarily domestic waste or from POTWs are limited as follows:~~

~~A. New releases from any source other than POTW facilities are prohibited;~~

~~B. Discharges from sources that existed before June 29, 1974, or if additional stream segments are placed in this section, discharges that were permitted at the time of the designation will be allowed;~~

~~C. Discharges from POTWs; and~~

~~D. Releases from the permitted facilities under subparagraphs (6)(A)2.A. C. shall meet the following effluent limitation:~~

~~(I) BOD5 equal to or less than a monthly average of ten (10) mg/l and a weekly average of fifteen (15) mg/l;~~

~~(II) NFRs equal to or less than a monthly average of fifteen (15) mg/l and a weekly average of twenty (20) mg/l;~~

~~(III) pH shall be maintained in the range from six to nine (6-9) standard units;~~

~~(IV) Discharges shall not contain more than a monthly average of four hundred (400) fecal coliform colonies per one hundred milliliters (100 ml) and a daily maximum of one thousand (1,000) fecal coliform colonies per one hundred milliliters (100 ml);~~

~~(V) Where chlorine is used as a disinfectant, the effluent shall be dechlorinated except when the discharge is—~~

~~(a) Into an unclassified stream at least one (1) mile from a water quality standard classified stream;~~

~~or~~

~~(b) Into a flowing stream where the seven (7) day Q10 flow is equal to or greater than fifty (50) times the effluent flow;~~

~~(VI) If the facility is a POTW wastewater treatment facility providing at least primary treatment during a precipitation event and discharges on a noncontinuous basis, the discharge may be allowed subject to the following:~~

~~(a) BOD5 and NFRs equal to or less than a weekly average of forty five (45) mg/l;~~

~~(b) pH shall be maintained in the range from six to nine (6-9) standard units; and~~

~~(c) Only the wastewater in excess of the capacity of the noncontinuous wastewater treatment plant hydraulic capacity may be discharged; and~~

~~(VII) When the wastewater treatment process causes nitrification which affects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five (5) mg/l less than the regular BOD5 in the operating permit.~~

~~3. Industrial, agricultural and other nondomestic contaminant sources, point sources or wastewater treatment facilities which are not included under subparagraph (6)(A)2.B. shall not be allowed to discharge. Agrichemical facilities shall be designed and constructed so that all bulk liquid pesticide nonmobile storage containers and all bulk liquid fertilizer nonmobile storage containers are located within a secondary containment facility. Dry bulk pesticides and dry bulk fertilizers shall be stored in a building so that they are protected from the weather. The floors of the buildings shall be constructed of an approved design and material(s). At an agrichemical facility, all transferring, loading, unloading, mixing and repackaging of bulk agrichemicals shall be conducted in an operational area. All precipitation collected in the operational containment area or secondary containment area as well as process generated wastewater shall be stored and disposed of in a no discharge manner.~~

~~4. Monitoring requirements.~~

~~A. The department will develop a wastewater and sludge sampling program based on design flow that will require, at a minimum, one (1) wastewater sample per year for each twenty five thousand (25,000) gpd of effluent, or fraction thereof, except that—~~

~~(I) Point sources that discharge less than five thousand (5,000) gpd may only be required to submit an annual report;~~

~~(II) Point sources that discharge more than one point three (1.3) mgd will be required at a minimum to collect fifty two (52) wastewater samples per year; and~~

~~(III) Sludge sampling will be established in the permit.~~

~~B. Sampling frequency shall be spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall take samples on a regular schedule, while point sources with seasonal discharges shall collect samples during the season of discharge.~~

~~C. Sample types shall be as follows:~~

~~(I) Samples collected from lagoons may be grab samples;~~

~~(II) Samples collected from mechanical plants shall be twenty four (24) hour composite samples, unless otherwise specified in the operating permit; and~~

~~(III) Sludge samples shall be a grab sample unless otherwise specified in the operating permit.~~

~~D. The monitoring frequency and sample types stated in paragraph (6)(D)3. are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site specific informational needs of the department.~~

~~(B) Limits for Outstanding State Resource Waters as per Water Quality Standards.~~

~~1. Discharges shall not cause the current water quality in the streams to be lowered.~~

~~2. Discharges will be permitted as long as the requirements of paragraph (6)(B)1. are met and the limitations in section (8) are not exceeded.~~

(A) Discharge Restrictions for Outstanding National or State Resource Waters.

1. Except as specified below, no new or expanded discharges shall be allowed directly into these waters.

2. Discharge from sources that existed before June 29, 1974, are allowed.

3. When additional waters are designated in 10 CSR 20-7.031—Tables D & E, discharges that are permitted at the time of the designation are allowed.

4. Temporary lowering of water quality, but not below water quality standards, may be allowed from storm water discharges during a construction project with prior approval by the department.

(B) Discharge Restrictions in the watershed of Outstanding National or State Resource Waters.

1. All discharges into the tributaries of designated waters must ensure that no lowering of water quality occurs at or below the point the tributary enters the designated water.

2. Discharges within the watershed of designated waters shall not result in the lowering of water quality in the designated water through hydrologic connections, such as through groundwater.

3. Watershed, as used in this section, shall be any drainage area, on the surface or underground, that drains or flows to a designated water.

(7) Effluent Limitations for Subsurface Waters.

(A) No person shall release any water into aquifers, store or dispose of water in a way which causes or permits it to enter aquifers either directly or indirectly unless it meets the appropriate groundwater protection criteria set in 10 CSR 20-7.031, Table A at a point ten feet (10') under the release point except as provided in subsections (7)(E) and (F). The permit writer shall review the complete application and other data to determine which parameter to include in the permit.

(B) No wastewater shall be introduced into sinkholes, caves, fissures or other openings in the ground which do or are reasonably certain to drain into aquifers except as provided in section (4) of this rule.

(C) All abandoned wells and test holes shall be properly plugged or sealed to prevent pollution of subsurface waters, as per the requirements of the Geological Survey and Resource Assessment Division~~Division of Geology and Land Survey~~.

(D) Where any wastewater treatment facility or any water contaminant source or point source incorporates the use of land treatment systems which allows or can reasonably be expected to allow wastewater effluents to reach the aquifer. Compliance with subsection (7)(A) shall be determined by a site specific monitoring plan.

(E) The effluent limitations specified in subsection (7)(A) shall not apply to facilities designed and constructed to meet department design criteria provided these designs have been reviewed and approved by the Department of Natural Resources. The Department of Natural Resources has the right to require monitoring, reporting, public notice and other information as deemed appropriate. This exemption may be revoked by the department should any monitoring indicate an adverse effect on a beneficial water use or if the numeric criteria in the Water Quality Standards are being exceeded.

(F) Any person not included in subsection (7)(E) who releases, stores or disposes of water in a manner which results in releases of water to an aquifer having concentrations in excess of one (1) or more parameter limitations provided in subsection (7)(A) may be allowed to resample for purposes of verification of the excess. At their discretion, persons may demonstrate, at the direction of the Department of Natural Resources, that the impact on the water quality in the aquifer is negligible on the beneficial uses. The demonstration shall consider, at a minimum, the following factors:

1. Site geology;
2. Site geohydrology;
3. Existing and potential water uses;
4. Existing surface water and groundwater quality;
5. Characteristics of wastes or wastewater contained in facilities; and
6. Other items as may be required by the Department of Natural Resources to assess the proposal.

A. All demonstrations shall be reviewed by the department if the demonstrations show that the impact on groundwater quality will not result in an unreasonable risk to the public, alternate effluent limitation(s) will be proposed by the Department of Natural Resources and presented to the Clean Water Commission for approval. The Clean Water Commission has the right to require monitoring, reporting, public notice and other information as deemed appropriate in the approval of the alternate limitation for one (1) or more parameters from (7)(A). The Clean Water Commission may hold a public hearing to secure public comment prior to final action on an alternate limitation.

B. No alternate limitations will be granted which would impair beneficial uses of the aquifer or threaten human health or the environment.

C. Alternate limitations may be revoked by the department should any monitoring indicate an adverse effect on a beneficial water use or violations of the alternate limitation.

(8) Effluent Limitations for All Waters, Except Those in Paragraphs (1)(A)1.-6.

(A) The following limitations represent the maximum amount of pollutants which may be discharged from any point source, water contaminant source or wastewater treatment facility.

(B) Discharges from wastewater treatment facilities which receive primarily domestic waste or POTWs shall undergo treatment sufficient to conform to the following limitations:

1. BOD5 and NFRs equal to or less than a monthly average of thirty (30) mg/l and a weekly average of forty-five (45) mg/l;

2. pH shall be maintained in the range from six to nine (6-9) standard units;

3. The limitations of paragraphs (8)(B)1. and 2. will be effective unless a water quality impact study has been conducted by the department, or conducted by the permittee and approved by the department, showing that alternate limitation will not cause violations of the Water Quality Standards or impairment of the uses in the standards. When a water quality impact study has been completed to the satisfaction of the department, the following alternate limitation may be allowed:

A. If the facility is a wastewater lagoon, the NFRs shall be equal to or less than a monthly average of eighty (80) mg/l and a weekly average of one hundred twenty (120) mg/l and the pH shall be maintained above 6.0 and the BOD5 shall be equal to or less than a monthly average of forty-five (45) mg/l and a weekly average of sixty-five (65) mg/l;

B. If the facility is a trickling filter plant, the BOD5 and NFRs shall be equal to or less than a monthly average of forty-five (45) mg/l and a weekly average of sixty-five (65) mg/l;

C. Where the use of effluent limitations set forth in section (8) is known or expected to produce an effluent that will endanger water quality, the department will set specific effluent limitations for individual dischargers to protect the water quality of the receiving streams. When a waste load allocation study is conducted for a stream or stream segment, all permits for discharges in the study area shall be modified to reflect the limits established in the waste load allocation study;

D. The department may require more stringent limitations than authorized in subsections (3)(A) and (B) under the following conditions:

(I) If the facility is an existing facility, the department may set the BOD5 and NFR limits based upon an analysis of the past performance, rounded up to the next five (5) mg/l range; and

(II) If the facility is a new facility, the department may set the BOD5 and NFR limits based upon the design capabilities of the plant considering geographical and climatic conditions;

(a) A design capability study has been conducted for new lagoon systems. The study reflects that the effluent limitations should be BOD5 equal to or less than a monthly average of forty-five (45) mg/l, a weekly average of sixty-five (65) mg/l, NFRs equal to or less than a monthly average of seventy (70) mg/l and a weekly average of one hundred ten (110) mg/l;

(b) A design capability study has been conducted for new trickling filter systems and the study reflects that the effluent limitations should be BOD5 and NFR equal to or less than a monthly average of forty (40) mg/l and a weekly average of sixty (60) mg/l; and

E. If the facility is a POTW wastewater treatment facility providing at least primary treatment during a precipitation event and discharges on a noncontinuous basis, the discharge may be allowed provided that:

(I) BOD5 and NFRs equal to or less than a weekly average of forty-five (45) mg/l. The NFR (total suspended solids) limit may be higher than forty-five (45) mg/l for combined sewer overflow treatment devices when organic solids are demonstrated to be an insignificant fraction of total inorganic storm water generated solids, and the permittee can demonstrate that achieving a limit of forty-five (45) mg/l is not cost effective relative to water quality benefits. In these cases, an alternative total suspended solids limit would be developed.

(II) pH shall be maintained in the range from six to nine (6-9) units; and

(III) Only the wastewater in excess of the capacity of the noncontinuous waste-water treatment plant hydraulic capacity may be discharged;

4. Fecal coliform.

A. Discharges to streams identified as whole body contact areas, discharges within two (2) miles upstream of these areas and discharges to streams with a seven (7)-day Q10 flow of zero (0) in metropolitan areas where the stream is readily accessible to the public shall not contain more than a monthly average of four hundred (400) fecal coliform colonies per one hundred milliliters (100 ml) and a daily maximum of one thousand (1000) fecal coliform colonies per one hundred milliliters (100 ml) from April 1 to October 31. The department may waive or relax this limitation if the owner or operator of the wastewater treatment facility can demonstrate that neither health nor water quality will be endangered by failure to disinfect. Facilities

without disinfected effluent shall comply with the implementation schedule found in subsection (9)(H) of this rule. During periods of wet weather, a temporary suspension of accountability for bacteria standards may be established through the process described in subsection (9)(I) of this rule.

B. Where chlorine is used as a disinfectant, the effluent shall be dechlorinated except when the discharge is--

(I) Into an unclassified stream at least one (1) mile from a Water Quality Standards classified stream; or

(II) Into a flowing stream where the seven (7)-day Q10 flow is equal to or greater than fifty (50) times the design effluent flow;

5. Sludges removed in the treatment process shall not be discharged. Sludges shall be routinely removed from the wastewater treatment facility and disposed of or used in accordance with a sludge management practice approved by the department; and

6. When the wastewater treatment process causes nitrification which affects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five (5) mg/l less than the regular BOD5 in the operating permit.

(C) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that will require at a minimum one (1) wastewater sample per year for each fifty thousand (50,000) gpd of effluent, or fraction thereof, except that--

A. Point sources that discharge less than twenty-five thousand (25,000) gpd may only be required to submit an annual report;

B. Point sources that discharge more than one (1) mgd will be required at a minimum to collect twenty (20) wastewater samples per year unless the applicant can show that the wastewater has a consistent quality, such as once through cooling water or mine dewatering, then the department may set less frequent sampling requirements; and

C. Sludge sampling will be established in the permit.

2. Sampling frequency shall be spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall take samples on a regular schedule, while point sources with seasonal discharges shall collect samples during their season of discharge.

3. Sample type shall be as follows:

A. Samples collected from lagoons may be grab samples;

B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and

C. Sludge samples shall be a grab sample unless otherwise specified in the operating permit.

4. The monitoring frequency and sample types stated in paragraph (8)(C)3. are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site specific informational needs of the department.

(9) General Conditions.

(A) Monitoring, Analysis and Reporting.

1. All construction and operating permit holders shall submit reports at intervals established by the permit or at any other reasonable intervals required by the department. The monitoring and analytical schedule shall be as established by the Missouri Department of Natural Resources in the operating permit.

2. The analytical and sampling methods used must conform to the following reference methods unless alternates are approved by the department:

A. Standard Methods for the Examination of Waters and Wastewaters (14, 15, 16, 17, 18, 19 and 20th Edition), published by the Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314;

B. Water Testing Standards, Vol. 11.01 and 11.02, published by American Society for Testing and Materials, West Conshohocken, PA 19428;

C. Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020), published by the Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 54202; and

D. NPDES Compliance Sampling Inspection Manual, published by Environmental Protection Agency, Enforcement Division, Office of Water Enforcement, 401 Main Street, S.W., Washington DC 20460.

3. Sampling and analysis by the department to determine violations of this regulation will be conducted in accordance with the methods listed in paragraph (9)(A)2. or any other approved by the department. Violations may be also determined by review of the permittee's self-monitoring reports. Analysis conducted by the permittee or his/her laboratory shall be conducted in such a way that the precision and accuracy of the analyzed results can be determined.

4. If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitations or standards specified in the permit, the permittee shall provide the department with the following information, with the next discharge monitoring report as required under subsection (9)(A):

A. A description of the discharge and cause of noncompliance;

B. The period of noncompliance, including exact dates and times and/or the anticipated time when the discharge will return to compliance; and

C. Steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.

5. In the case of any discharge subject to any applicable toxic pollutant effluent standard under section 307(a) of the Federal Clean Water Act, the information required by paragraph (9)(A)4. regarding a violation of this standard shall be provided within twenty-four (24) hours from the time the owner or operator of the water contaminant source, point source or wastewater treatment facility becomes aware of the violation or potential violation. If this information is provided orally, a written submission covering these points shall be provided within five (5) working days of the time the owner or operator of the water contaminant source, point source or wastewater treatment facility becomes aware of the violation.

(B) Dilution Water. Dilution of treated wastewater with cooling water or other less contaminated water to lower the effluent concentration to limits required by an effluent regulation of the Clean Water Law shall not be an acceptable means of treatment.

(C) Compliance.

1. New sources. Water contaminant sources, point sources and wastewater treatment facilities and their tributary sewer systems on which construction begins after the effective date of the applicable effluent guidelines shall meet all requirements of this regulation and the Missouri Clean Water Law.

2. Sources for which construction and operating permits were issued prior to the effective date of this regulation shall meet all the requirements of the existing permit. Where the existing permit contains more stringent limitations than those contained in this regulation, the permittee may apply to the department for a modification of the permit to contain the new limitations. The department will notify the applicant of its decision to modify or deny the application within sixty (60) days after receiving an application.

(D) Compliance with New Source Performance Standards.

1. Except as provided in paragraph (9)(D)2., any new water contaminant source, point source or wastewater treatment facility on which construction commenced after October 18, 1972, or any new source, which meets the applicable promulgated new source performance standards before the commencement of discharge, shall not be subject to any more stringent new source performance standards or to any more stringent technology-based standards under subsection 301(b)(2) of the Federal Clean Water Act for the shortest of the following periods:

A. Ten (10) years from the date that construction is completed;

B. Ten (10) years from the date the source begins to discharge process or other nonconstruction related wastewater; or

C. The period of depreciation or amortization of the facility for the purposes of section 167 or 169 (or both) of the Internal Revenue Code of 1954.

2. The protection from more stringent standards of performance afforded by paragraph (9)(D)1. does not apply to--

A. Additional or more stringent permit conditions which are not technology based, for example, conditions based on water quality standards or effluent standards or prohibitions under section 307(a); and

B. Additional permit conditions controlling pollutants listed as toxic under section 307(a) of the Federal Clean Water Act or as hazardous substances under section 311 of the Federal Clean Water Act and which are not controlled by new source performance standards. This exclusion includes permit conditions controlling pollutants other than those identified as hazardous where control of those other pollutants has been specifically identified as the method to control the hazardous pollutant.

(E) Bypassing.

1. Any bypass or shutdown of a wastewater treatment facility and tributary sewer system or any part of a facility and sewer system that results in a violation of permit limits or conditions is prohibited except--

A. Where unavoidable to prevent loss of life, personal injury or property damages;

B. Where unavoidable excessive storm drainage or runoff would damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit; and

C. Where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance;

2. The permittee shall notify the department by telephone within twenty-four (24) hours and follow with a written report within five (5) days of all bypasses or shutdowns that result in a violation of permit limits or conditions. POTWs that bypass during storm water infiltration events need only report on their discharge monitoring reports. This section does not excuse any person from any liability, unless this relief is otherwise provided by the statute.

(F) Sludge facilities shall meet the applicable control technology for sewage sludge treatment, use and disposal as published by the Environmental Protection Agency (EPA) in 40 CFR 503 and applicable state standards and limitations published in 10 CSR 20 and 10 CSR 80. Where there are no standards available or applicable, or when more stringent standards are appropriate to protect human health and the environment, the department shall set specific limitations in permits on a case-by-case basis using best professional judgment.

(G) Industrial, agricultural and other nondomestic water contaminant sources, point sources or wastewater treatment facilities which are not included under subsection (2)(B), (3)(B), (4)(B), or (8)(B)--

1. These facilities shall meet the applicable control technology currently effective as published by the EPA in 40 CFR 405-471. Where there are no standards available or applicable, the department shall set specific parameter limitations using best professional judgment. pH shall be maintained in the range from six to nine (6-9) standard units, except that discharges of uncontaminated cooling water and water treatment plant effluent may exceed nine (9) standard units, but may not exceed ten and one-half (10.5) standard units, if it can be demonstrated that the pH will not exceed nine (9) standard units beyond the regulatory mixing zone; and

2. Agrichemical facilities shall be designed and constructed so that all bulk liquid pesticide nonmobile storage containers and all bulk liquid fertilizer nonmobile storage containers are located within a secondary containment facility. Dry bulk pesticides and dry bulk fertilizers shall be stored in a building so that they are protected from the weather. The floors of the buildings shall be constructed of an approved design and material(s). At an agrichemical facility, the following procedures shall be conducted in an operational area: all transferring, loading, unloading, mixing and repackaging of bulk agrichemicals. All precipitation collected in the operational containment area or secondary containment area as well as process generated wastewater shall be stored and disposed of in a no-discharge manner or treated to meet the applicable control technology referenced in paragraph (9)(G)1.

(H) Implementation Schedule for Protection of Whole Body Contact and Secondary Contact Recreation. Upon the first renewal of each permit upon the effective date of this rule, each permit shall be modified to contain a compliance schedule that provides up to three (3) years for the permittee to either install disinfection systems, present an evaluation sufficient to show that disinfection is not required to protect one or both designated recreational uses, or present a use attainability analyses (UAA) that demonstrates one or both designated recreational uses are not attainable in the classified waters receiving the effluent. Permit applications received after the effective date of this rule for newly constructed or upgraded facilities shall comply with this subsection upon permit issuance.

(I) Temporary Suspension of Accountability for Bacteria Standards during Wet Weather. The accountability for bacteria standards may be temporarily suspended for specific discharges when conditions contained in paragraphs (9)(I)1. through 3. are met.

1. No recreational use exists within two (2) miles downstream of the discharge during the period of suspension as confirmed through a use assessment.

2. Compliance with water quality based discharge controls more stringent than secondary treatment standards for domestic wastewater treatment systems, approved watershed management plans, or approved long-term control plans (LTCPs) for combined sewer overflows (CSOs) would result in substantial and widespread economic and social impact.

3. The Missouri Clean Water Commission has approved the suspension.

*AUTHORITY: section 644.026, RSMo Supp. 1999. * Original rule filed June 6, 1974, effective June 16, 1974. Amended: Filed April 1, 1975, effective April 11, 1975. Rescinded: Filed Oct. 16, 1979, effective July 11, 1980. Readopted: Filed Feb. 4, 1980, effective July 11, 1980. Rescinded and readopted: Filed Nov. 10, 1982, effective May 12, 1983. Amended: Filed Sept. 11, 1984, effective March 12, 1985. Amended: Filed July 25, 1985, effective Dec. 26, 1985. Amended: Filed Feb. 1, 1988, effective June 13, 1988. Amended: Filed Sept. 13, 1988, effective Feb. 14, 1989. Amended: Filed July 15, 1991, effective Jan. 13, 1992. Amended: Filed Sept. 2, 1993, effective May 9,*

1994. Amended: Filed March 1, 1999, effective Nov. 30, 1999. Amended: Filed Dec. 30, 1999, effective Sept. 30, 2000.

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10 CSR 20-7.020 Effluent Regulations

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